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(54) Title: OXIME CONJUGATES AND METHODS FOR THEIR FORMATION AND USE

(57) Abstract: The present invention relates to biodegradable biocompatible polyketals, methods for their preparation, and methods for treating animals by administration of biodegradable biocompatible polyketals. In one aspect, a method for forming the biodegradable biocompatible polyketals comprises combining a glycol-specific oxidizing agent with a polysaccharide to form an aldehyde intermediate, which is combined with a reducing agent to form the biodegradable biocompatible polyketal. The resultant biodegradable biocompatible polyketals can be chemically modified to incorporate additional hydrophilic moieties. A method for treating animals includes the administration of the biodegradable biocompatible polyketal in which biologically active compounds or diagnostic labels can be disposed. The present invention also relates to chiral polyketals, methods for their preparation, and methods for use in chromatographic applications, specifically in chiral separations. A method for forming the chiral polyketals comprises combining a glycol-specific oxidizing agent with a polysaccharide to form an aldehyde intermediate, which is combined with a suitable reagent to form the chiral polyketal. A method for use in chiral separations includes the incorporation of the chiral polyketals in the mobile phase during a chromatographic separation, or into chiral stationary phases such as gels. The present invention further relates to chiral polyketals as a source for chiral compounds, and methods for generating such chiral compounds.

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